

Work Order ID 155141

Monday, January 09, 2017 11:29:44 AM

155141

Page 1

Item ID: D350-604-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: ~~URF~~ 16-567 Stop ***NS2***
Item Name: Rear Locker Extender
Start Date: 8/1/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 9/1/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: DAS 21 9-89 Date: JAN 12 2017 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2273	L/R M <u>17/10/12</u>								
D350-604-041	CUR <u>9/7/17</u>								

100 Document Control 0.00 DAS 27 9-89
100 DOCUMENT CONTROL
DC Memo 0.00
Doc.Control -USB or Paperwork Photocopy bluefile and create labels per PPP D350-604-041
CHG009 DAS 21 9-89 See attachment

SEP 21 2017

110 PURCHASING 0.00 DAS 13 9-89
110 Purchasing 0.00
Purchasing Memo
Issue P/O: 349774
Description: D350-604-041 Rear locker extender.
Manufacture as per dwg D2273
Supplier: FDC Composites Inc.
Certification of Conformity and process sheet required.

1 JAN 17 2017

EXTREME CARE MUST BE TAKEN TO PROTECT THE SURFACES OF THE REAR LOCKER. THE SURFACES MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.

MUST BE WELL PACKAGE, IF NOT IT WILL BE REFUSE

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 155141

Monday, January 09, 2017 11:29:44 AM

155141

Page 2

Item ID: D350-604-041

Accept

N900040100

Setup

Start

NS1

Revision ID: URF 16-567

Item Name: Rear Locker Extender

Stop

NS2

Start Date: 8/1/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 9/1/2017 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

Receive & Inspect for Damage & Mat'l Certs
Packaging

0.00

120

Packaging

Memo

0.00

Packaging

Ensure a copy of Certification of Conformity and process sheet from Carbon-by-Design is attached.

DO NOT STACK REAR LOCKERS OR ANYTHING ON THEM

1X 8017-9-18

130

QC6- Inspect dimensions to drawing

0.00

130

QC

Memo

0.00

Quality Control

Check hole locations to template. DT 8824 Check process sheet and audit.

DAS
16
9-89

17/02/20

140

0.00

140

Small Fab

Memo

0.05

Small Fab

1- INSTALL DECALS AS PER DWG

DAS
28
9-89

SEP 21 2017



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Date : _____		Step #: _____		QTY Effective : _____				MRB (QS1042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

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Work Order ID 155141***155141***

Page 4

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Item ID: D350-604-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 16-567 Stop ***NS2***
Item Name: Rear Locker Extender
Start Date: 8/1/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 9/1/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Packaging	0.00							
160									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D350-604-041								
	Location: <u>Fg099</u>								
	PPP Rev: _____								
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.02							
Quality Control									

DAS
27
9-89
DAS
28
9-89
SEP 21 2017

17/9/25
UM 17/9/22

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Picklist Print

Monday, January 09, 2017 11:29:46 AM

Page 1

Work Order ID: 155141

155141

Parent Item: D350-604-041

D350-604-041

Parent Item Name: Rear Locker Extender

Start Date: 8/1/2017

Required Date: 9/1/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:Q03.12.01ReformatKJ/RF IPP REV:R
12.02.07 AS PER ECN12-521 DD verf:JLM IPP REV:S 12.04.04
AS PER DWG REV.B DD VERF:EC IPP REV:T 13.09.12 as per
CHG006/ECN13-616 DDVERF:JLM IPP REV:U 14.05.28 as per
chg008/ecn14-563 DD verf:JLM IPP REV:V 15.03.13 remove cam lock and
washerDD verf:JLM IPP REV:W 15.03.25 ECN15-545 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D350-604-041P

Purchased

No

110

Each

0.0000

1

1

D350-604-041P

Rear Locker Extender

**

D2268

Manufactured

No

140

Each

13.0000

1

1

D2268

Placard

**

DAS
27
9-89

Location

Loc Qty

Loc Code

ST006

13

B157834

1

147069

7

6/13/2017

148553

6

7/22/2017

D2728-1

Manufactured

Yes

140

Each

-1.0000

1

1

D2728-1

Dart Logo Label Small

**

D2269

Manufactured

No

155

Each

8.0000

1

1

D2269

Placard

**

DAS
27
9-89

Location

Loc Qty

Loc Code

ST006

8

B164004

1

147070

2

6/13/2017

148588

6

7/22/2017

SEP 21 2017

SEP 21 2017

SEP 21 2017

DAS
28
9-89

DAS
28
9-89

DAS
28
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Description Work Order Deviation				Disposition				Completed By																																																																	
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OTHER : _____																																																																									

Picklist Print

Page 2

Monday, January 09, 2017 11:29:46 AM

Work Order ID: 155141

155141

Parent Item: D350-604-041

D350-604-041

Parent Item Name: Rear Locker Extender

Start Date: 8/1/2017

Required Date: 9/1/2017

Start Qty: 1.00

Required Qty: 1.00

D5062-041

Manufactured No

155

Each

16.0000

1

1

D5062-041

**

Bracket Assembly

DAS
27
9-89

Location

ST147

145920

Loc Qty

16

16

Loc Code

B163728

1

SEP 21 2017

DAS
28
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

TABLE 1

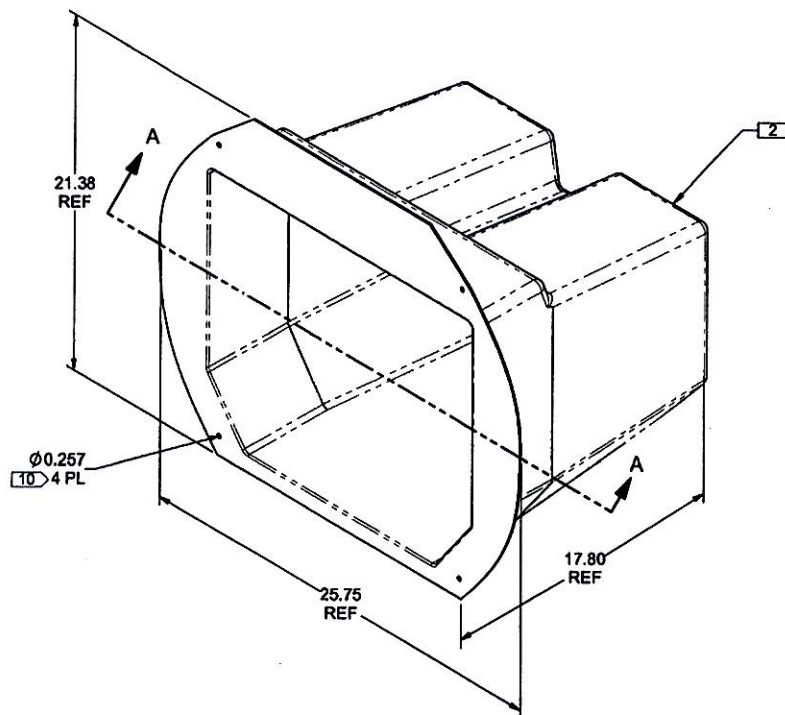
POSITION	MATERIALS
1	TOOL SURFACE
2	GELCOAT
3	3/4 oz CHOPPED STRAND MAT
4	7725 FIBER GLASS
5	7725 FIBER GLASS
9	7725 FIBER GLASS
10	PRIMER

TABLE 2

POSITION	MATERIALS
1	TOOL SURFACE
2	GELCOAT
3	3/4 oz CHOPPED STRAND MAT
4	7725 FIBER GLASS
5	7725 FIBER GLASS
6	7725 FIBER GLASS
7	7725 FIBER GLASS
8	7725 FIBER GLASS
9	7725 FIBER GLASS
10	PRIMER

NOTES:

- 1) MATERIAL: SEE TABLE 3
 2) FINISH: SEE TABLES 1, 2, & 3
 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
 7) WEIGHT: 5.5- 7.5 lbs
 8) LAMINATE PER DART QSI 006. LAMINATION SCHEDULE PER THIS DRAWING
 9) LAYUP USING DT9871 MOLD. WET LAYUP WITH BAG/VACUUM
 10) TRIM & DRILL PER DT9905. OPEN HOLES TO Ø0.257
 11) CONSTRUCTION: SEE TABLES 1 & 2
 12) MATTE TO HOLD DOWN CORNERS AS REQUIRED



D2273 REAR LOCKER EXTENDER

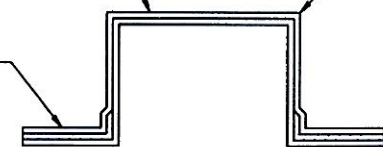
TABLE 3

MATERIAL USED	DESCRIPTION
GELCOAT	55X3535 WHITE GELCOAT
FIBER GLASS MAT	OWENS CORNING 3/4 oz CHOPPED STRAND MAT
FIBER GLASS CLOTH	HEXCEL 7725 FIBER GLASS
RESIN SYSTEM	DION 7704
PRIMER	TEMPO 4500-PB-23G (GREEN)

SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 15141 MJS
 170173

SEE TABLE 1

SEE TABLE 2



SECTION A-A

M	CHANGE GELCOAT TO 55X3535 WHITE GELCOAT, REMOVE PAINT FINISH OPTION (NOTE 2)	DB	16.05.19
L	ADD PAINT OPTION (NCR 15-5408)	CP	15.10.19
K	LAYUP AND MATL PER FDC COMPOSITES PROCESS	CP	15.03.12
J	CHANGED GELCOAT TO 4314-001 DURA FR WHITE	ML	13.12.10
I	CHANGE GELCOAT TO POLYCOR 2330PAWK745	SFM	13.08.13
H	CHANGE MATERIAL & MANUFACTURING PROCESS	DC	13.03.15
G	ADD MANUFACTURING OPTION B, ZN B5-1	DC	12.08.08
F	PRIMER LE 3404-S/LE 1175-S WAS 1144-S, ZN A6-1	DC	12.02.27
E	CHANGED SURFACE FINISH FROM 944W005 GELCOAT TO 2330PAWK745 GELCOAT, ZN A7-1. UPDATED DWG TO CURRENT STANDARDS.	DC	12.02.02
D	REMOVE EPOCAST, ADD SURFACE FINISH	CP	02.04.01
C	CLARIFY MATERIAL, LAYUP, AND TOOLING	RF	02.01.30
B	RE-DRAWN	MM	96.05.27

REV.	DESCRIPTION	BY	DATE
DESIGN	JB		
DRAWN	DB		
CHECKED	ML		
MFG. APPR.	DD		
APPROVED	WM		
DE APPR.	DS		
DATE	16.05.19		

DART AEROSPACE LTD
 HAWKESBURY, ONTARIO, CANADA

DRAWING NO.

D2273

REV. M

SHEET 1 OF 1

TITLE

350 REAR LOCKER EXTENDER NTS

SCALE

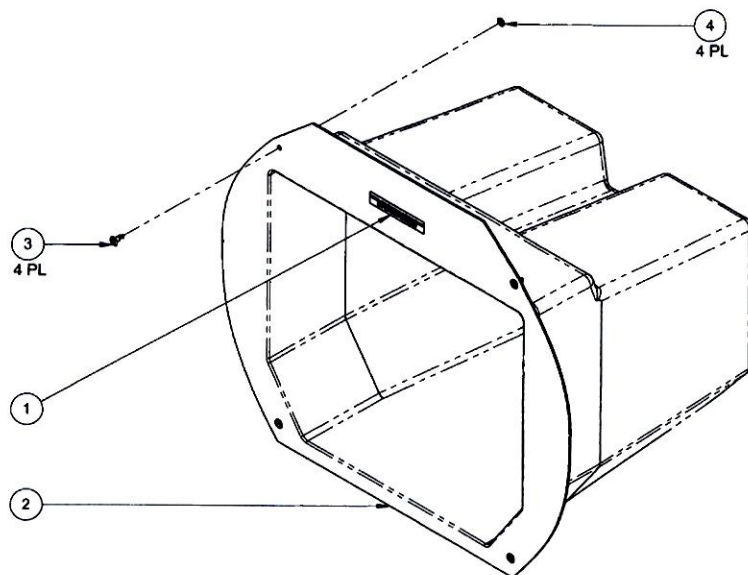
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RELEASED
 2017-01-11
 ECA 17-501

APPROVED

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
	X	D350-604-041	REAR LOCKER EXTENDER ASSEMBLY
1	1	D2268	PLACARD
2	1	D2273	REAR LOCKER EXTENDER
3	4	2600-6	CAMLOCK STUD
4	4	2600-LW	RETAINING WASHER



UP

D350-604-041 REAR LOCKER EXTENDER ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 5.5 to 7.5 lbs
- 8) INSTALL D2268 PLACARD IN LOCATION SHOWN, CENTERED ON FLANGE

C	REMOVE D2728-1, D2729-1 DECALS (ZN C5-1) REVISED RELATED NOTES, UPDATED PART WEIGHT	ML	13.12.16
B	INCORPORATE DSI 9470 (ZN D7-1), UPDATE DWG TO CURRENT STANDARDS, ADD D2728-1 PLACARD AND ORIENTATION NOTE (ZN C3-1), ADD D2729-1 (ZN C5-1).	DC	12.02.07
A	NEW ISSUE	CP	02.04.01
REV.	DESCRIPTION	BY	DATE
DESIGN	DW	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	ML		
CHECKED	AP	DRAWING NO.	REV. C
MFG. APPR.	JLM	D350-604-041	SHEET 1 OF 1
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	RLE ASSY	NTS
DATE	14.01.02	COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS A PRODUCT OF THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

Change Record

PAGE 1 OF 1

Part Number: D350-604-041

Description: REAR LOCKER EXTENDER

[illegible]



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO34974**

Purchase Order Date 1/17/2017 9:06:51 AM
PO Print Date 1/31/2017

Page Number 2 of 3

Order From : VC-FDC01
FDC COMPOSITES INC.
45 CHEMIN DE L'AEROPORT
LOCAL 26
ST-JEAN-SUR-RICHELIEU, QUEBEC J3B 7B5

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 450-357-1344 ext303

Ship To Contact
Ship To Phone
Ship Via: Journey Freight collect
Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB Destination-Collect

3	D350-604-041P	Rear Locker Extender	9/1/2017 Yes 9/1/2017	1.00 Each	\$705.00	\$705.00
---	---------------	----------------------	-----------------------------	--------------	----------	----------

AS PER DWG D2273 REV. M / D350-604-041 REV. C
B155140
PLEASE NOTE REARLOCKER UNDER NEW REV. M

Line Total: **\$705.00**

4	D350-604-041P	Rear Locker Extender	9/1/2017 Yes 9/1/2017	1.00 Each	\$705.00	\$705.00
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AS PER DWG D2273 REV. M / D350-604-041 REV. C
B155141
PLEASE NOTE REARLOCKER UNDER NEW REV. M

Line Total: **\$705.00**

5	D350-604-041P	Rear Locker Extender	9/1/2017 Yes 9/1/2017	1.00 Each	\$705.00	\$705.00
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AS PER DWG D2273 REV. M / D350-604-041 REV. C
B155142
PLEASE NOTE REARLOCKER UNDER NEW REV. M

PO Instructions: NOTE: NO BILLING PRIOR TO SHIPPING

Note:

1/31/2017

FDC Composites inc.
45, Chemin de L'Aéroport
Local 26
Saint-Jean-sur-Richelieu (QC)
J3B 7B5
Tel. : 450 357-1344

Shipping Order

29/08/2017

Order : 2676
Reference : PO 34974/1-5

Customer: DAE-CAD

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawksbury, ON
K6A 1K7

Ship To
Dart Aerospace
1270 Aberdeen Street
Hawksbury, ON
K6A 1K7
Tel.: 1 613 632-9577

Item No.	Description	Qty	Qty. Delivere	B/O Qty
D350-604-041P	REAR LOCKER EXTENDER PO item: 34974/1 FDC ID: SID001-115 Lot: 2017-02-23 As per DWG.D2273 Rev. M B155138	1		
D350-604-041P	REAR LOCKER EXTENDER PO item: 34974/2 FDC ID: SID001-116 Lot: 2017-02-27 As per DWG.D2273 Rev. M B155139	1		
D350-604-041P	REAR LOCKER EXTENDER PO item: 34974/3 FDC ID: DAE001-117 Lot: 2017-02-18 As per DWG.D2273 Rev. M B155140	1		
D350-604-041P	REAR LOCKER EXTENDER PO item: 34974/4 FDC ID: DAE001-119 Lot: 2017-02-28 As per DWG.D2273 Rev. M B155141	1		

8079-18.

*** Continued on Next Page ***



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CERTIFICATE of CONFORMITY

Customer Name: Dart Aerospace.

Customer P/O Number: 34974

Revision: NC

<u>PO Item</u>	<u>Qty</u>	<u>Part number</u>	<u>Dwg number</u>	<u>Description</u>	<u>Dart ID</u>	<u>FDC ID</u>	<u>Lot</u>
1	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155138	DAE001-115	2017-02-23
2	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155139	DAE001-116	2017-02-27
3	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155140	DAE001-117	2017-02-18
4	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155141	DAE001-119	2017-02-28
5	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155142	DAE001-120	2017-02-28

I hereby certify that the workmanship, material and the processes used in the manufacture of the above part(s) supplied are in accordance with the requirements of the applicable Purchase Order.

Signature: _____

Marjorie Geoffrion, Quality Inspector

Date: 2017-08-28

5
17/09/20



Gamme de Fabrication

Nom de Gamme :	Rear locker extender - DART
# de Gamme (et rev.) :	DAE001 Rev. E
Nom pièce - Client :	350 Rear locker extender - DART AEROSPACE
# de Dessins (et rev.) :	D2273 Rev. J

# LOT	2017-02-28
# SÉRIE(ID)	DAE001-119

ID: B 155141

Fiche suiveuse

PLAGE (ÉTAPES)	DÉPARTEMENTS	DESCRIPTION GÉNÉRALE	DATE(HR) SORTIE
[10-60]	Préparation	Moule, Espace de travail, Matière premières, Consommables	#21 #23 23 FEV. 2017 22 FEV. 2017
[70-90]	Finition/Peinture	Appliquer Gel coat, Inspecter	#3 28 FEV. 2017
[100-150]	Laminage	Laminer, Démouler, Inspecter	#26 #23 #19 28 FEV. 2017 28 FEV. 2017 28 FEV. 2017
[160-200]	Usinage	Percer, Découper, Ébavurer, Inspecter, Sabler	#30 9 MAR. 2017
[210-230]	Finition/Peinture	Primer, Inspection	#3 28 MAR. 2017
240	Expédition	Emballer, Expédier	#8 30 AOUT 2017

Gamme préparé par : Guillaume G.Jasmin
 Gamme révisée par : Pascal Seguin
 Gamme vérifiée par (Chefs d'équipe) : _____
 Gamme approuvée par : _____
 Date d'émission : 2017-02-20

Approbation Qualité

Avant de produire le CofC, toutes les étapes et les informations requises des gammes subséquentes reliées à ce produit ont été complétées et remplies

Inspecteur

Qualité

Informations à remplir :

Cases grises pâles

Inspection :

Cases grises foncées

Matières premières

Matériel Requis (Nont abrégé)	# de lot	Date d'expiration	Spécification et/ou identification
Résine	1028612	2017-05-18	Dion 7704
Norox (Résine)	41049	2017-08-01	MEKP-9
Norox (Gel coat)	41049	2017-08-01	MEKP-9
Gel coat blanc	702.284	2017-03-20	55X-3535
Mat ¾ oz/pi²	5051100174-1	N/A	¾ oz Chopped Strand Mat (Owens Corning Or Equivalent)
Fibre de verre 7725	4294874	N/A	Hexcel 7725 Fiber Glass
Apprêt (Primer) (Vert)	18316	2018-05-01	Tempo 4500-PB-23G (Vert)
Durcisseur pour apprêt (hardener)	18318	2018-05-01	Tempo 4500-C-23
Attache mécanique (Camloc)	508980	N/A	2600-5
Rondelle de retenue pour Camloc	1745658	N/A	2600-LW

Équipement	Matériel auxiliaire	Santé et sécurité
Moule : MOU306 ou MOU309	FMS	Sarrau
Pompe à vide	55NC	Lunettes de sécurité
Jig de découpe et perçage : GAB350	Peel ply	Soulier de protection
Jig de finition et d'inspection : GAB355	Film perforé	Gants
	Bleeder breather	Masques à cartouches
Pince pour installer Camloc : OUT951	Bag big blue	
Outil pour installer rondelle de retenue : OUT952	Ruban scellant (Dum Dum)	

Documents auxiliaires
Annexe 1
Formulaire de résine (RES-DAR001)

MPS	Description
MPS-300-93-31-007-NC	Démoulage 55NC
MPS-300-93-31-058-A	Composite part inspection
MPS-300-93-31-020-B	Edge finish after trimming
MPS-300-93-31-097-NC	Epoxy - Polyamide primer
MPS-300-93-31-084-NC	Protection et entreposage des pièces

Suivi des révisions

# de révision	Contenu (et étape) de la révision	Date de révision	Révisé par :
A	Révision d'une OP inspection, Ajout nouveaux moules et retrait d'un type de primer	2015-03-04	Guillaume G.Jasmin
B	Ajout des conformateurs, du gabarit GAB355, de l'installation des camlocs, inspection du poids et identification finale	2015-03-25	Guillaume G.Jasmin
C	Mise à jour de la case approbation qualité page 1	2015-04-02	Guillaume G.Jasmin

Opération	Description	Références, outils et équipements	Date et initiales
<u>Section A : PRÉPARATION</u>			
10	<u>Remplir les informations requises sur la première page (cases grises pâles)</u> - Demander au coordonnateur de production (ID) - Inscrire les heures et les dates d'entrée et de sortie de département		#21 23 FEB 2017 #23 22 FEB 2017
20	<u>Découper la fibre et les périssables (Peel ply, sac étanche...) selon l'ANNEXE 1</u> - ACHEMINER et REMPLIR la section « Matière premières » pour : - Fibre de verre 7725 - Mat ¾ oz	Annexe #23 1 22 FEB 2017	#21 23 FEB 2017
40	<u>Préparer la résine selon RES-DAR001 (Gamme de formulation de résine)</u> ACHEMINER et REMPLIR la section « Matière premières » pour : - Résine - Norox	RES-DAR001	#28 28 FEB 2017
50	PRÉPARER le moule - Cochez le moule utilisé : MOU306 ☐ , MOU309 ☒ ☒ Nettoyer et traiter le moule ☒ Poser le Masking tape <u>Si nécessaire, traiter le moule au 55NC</u> Faire le test de pelage, s'il ne passe pas, appliquer une couche de 55NC et refaire le test.	Annexe 1 MOU30 6 ou MOU30 9 MPS- 300-93- 31-007	#26 27 FEB 2017

60	PRÉPARER l'espace de travail (pendant l'application du gel coat)		#21 27 FEB 2017 #23 27 FEB 2017	
	☒ Vérifier et préparer la pompe ☒ Préparer et distribuer les outils ☒ Protéger l'environnement de travail (tables, plancher, etc.) ☒ Vêtir l'équipement de protection personnel ☒ Partir la ventilation ☒ Vérifier l'ordre et la présence de tous les plis de fibre et des morceaux de noyau dans le sac			
	Position	Matériel		Initial employé
	10F	¾ oz Chopped strand MAT		Kevin NF
	20F	7725 Fibre de verre		Kevin NF
	30F	7725 Fibre de verre		Kevin NF
	40R	7725 Fibre de verre		Kevin NF
	50C	Noyau DIAB F40 1/8po		Kevin NF
	60R	7725 Fibre de verre		Kevin NF
	70R	7725 Fibre de verre		Kevin NF
80F	7725 Fibre de verre	Kevin NF		

Section B : APPLICATION GEL COAT

70	(GEL COAT) : ACHEMINER et REMPLIR la section « Matière premières » pour : Gel coat		#28 28 FEB 2017		
80	APPLIQUER le Gel coat (18 - 22 mils) <table border="1" style="width: 100%;"> <tr> <td>Heure d'application</td> <td>06 h 50 min</td> </tr> </table>	Heure d'application	06 h 50 min	Annexe 1	#3 28 FEB 2017
Heure d'application	06 h 50 min				
90	Point d'inspection (Inspecteur Qualité) : ☒ Épaisseur du gel coat : 18 - 22 mils ☒ Qualité de l'application du gel coat : Uniforme et esthétique.		Inspecteur  Qualité		

Section C : LAMINAGE

100	Points d'inspection (Inspecteur Qualité ou Chef d'Équipe) : ☐ Donner l'approbation pour que la pièce puisse être laminée (le gel coat est « amoureux » ou « tack free »)	Inspecteur  Qualité 27/02/2017																																							
110	LAMINER <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th style="width: 30%;">Position</th> <th style="width: 70%;">Matériel</th> </tr> </thead> <tbody> <tr><td>10F</td><td>¾ oz Chopped strand MAT</td></tr> <tr><td>20F</td><td>7725 Fibre de verre</td></tr> <tr><td>30F</td><td>7725 Fibre de verre</td></tr> <tr><td>40R</td><td>7725 Fibre de verre</td></tr> <tr><td>60R</td><td>7725 Fibre de verre</td></tr> <tr><td>70R</td><td>7725 Fibre de verre</td></tr> <tr><td>80F</td><td>7725 Fibre de verre</td></tr> </tbody> </table> CONSOMMABLE <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tbody> <tr><td>10F</td><td>Peel Ply</td></tr> <tr><td>20F</td><td>Release film non perforé</td></tr> <tr><td>30F</td><td>Bleeder / Breather</td></tr> <tr><td>50F</td><td>Bagging bleu</td></tr> </tbody> </table> ☐ S'assurer que tous les plis dans le tableau ont été laminés ☐ S'assurer que tous les conformateurs (Qte 9) sont en place par-dessus le Bleeder/Breather <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tbody> <tr> <td style="width: 40%;">Heure début laminage</td> <td style="width: 10%; text-align: center;">7</td> <td style="width: 10%; text-align: center;">h</td> <td style="width: 10%; text-align: center;">15</td> <td style="width: 10%; text-align: center;">min</td> </tr> <tr> <td>Heure mise sous-vide (sac scellé)</td> <td style="text-align: center;">8</td> <td style="text-align: center;">h</td> <td style="text-align: center;">15</td> <td style="text-align: center;">min</td> </tr> <tr> <td>Intensité du vide (25 inHg)</td> <td style="text-align: center;">29</td> <td colspan="3" style="text-align: right;">inHg</td> </tr> </tbody> </table>	Position	Matériel	10F	¾ oz Chopped strand MAT	20F	7725 Fibre de verre	30F	7725 Fibre de verre	40R	7725 Fibre de verre	60R	7725 Fibre de verre	70R	7725 Fibre de verre	80F	7725 Fibre de verre	10F	Peel Ply	20F	Release film non perforé	30F	Bleeder / Breather	50F	Bagging bleu	Heure début laminage	7	h	15	min	Heure mise sous-vide (sac scellé)	8	h	15	min	Intensité du vide (25 inHg)	29	inHg			Annexe 1 GAB356 à GAB364 (Qte 9) #23 28 FEV 2017 #26 28 FEV 2017 #21 28 FEV 2017 #19 28 FEV 2017
Position	Matériel																																								
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120	LAISSER POLYMÉRISER la pièce sous vide pendant 2h	#23 28 FEV 2017 #26 28 FEV 2017 #19 N/A 28 FEV 2017																																							

130	<u>DÉMOULER et IDENTIFIER la pièce</u> ☒ Brancher le système d'air comprimé ☒ Écrire le numéro de pièce et la date sur un collant – # de lot (date de début) – # de série ID Ex : (AAAAMMJJ) – (DAE001-XXX) ☐ Découper une pellicule de plastique protecteur bleu et la coller sur le rebord et à l'intérieur de la partie blanche (Gel coat) (Voir Annexe 1) ☒ Placer la pièce sur la table d'inspection	Annexe 1	#26 28 FEV. 2017 402 131 82 19
140	<u>Point d'inspection (inspecteur qualité) :</u> ☒ Identifier la présence de surplus de résine ☒ Identifier la présence de bulles d'air ☒ Identifier la présence de zone sèche ☒ Identifier la présence de plis dans la fibre	MPS- 300-93- 31-058	Inspecteur Qualité 207030
150	<u>Nettoyer le moule</u> - Enlever la résine durcie tout le tour du moule avec une spatule en plastique pour ne pas endommager le moule Si nécessaire, nettoyer le moule avec un chiffon légèrement humecté de nettoyant à moule (PMC) NE PAS TROP APPLIQUER DE "PMC"	Spatule en plastiqu e	#26 28 FEV. 2017 #19 28 FEV. 2017

Section D : USINAGE

160	<u>PERÇAGE ET DÉCOUPE :</u> INSTALLER le Gabarit de perçage et découpe PERÇER la pièce - Percer 4 trous avec un forêt F (Dia. .257 po) au travers des canons de perçage du Gabarit GAB350 DÉCOUPER la pièce - Retirer le Gabarit de découpe une fois terminé	GAB350 Annexe 1 Forêt F (Dia. .257 po)	#30 9 MAR. 2017
170	<u>SABLAGE :</u> INSTALLER le Gabarit de finition et d'inspection GAB355 SABLER la pièce jusqu'à arriver à la dimension du Gabarit GAB355 (voir Annexe 1) RETIRER le Gabarit	GAB355 Annexe 1 MPS- 300-93- 31-020	N/A 28

	ÉBAVURER les arêtes vives		
180	<u>Point d'inspection (inspecteur qualité) :</u> ☒ Plier les flanges (rebords) afin de s'assurer que le Gel coat ne craque pas (voir Annexe 1 pour ce test) ☒ Vérifier la conformité de la pièce (Dimensions) selon le no. de dessin et selon le MPS-300-93-31-058	Annexe 1 MPS-300-93-31-058 Inspecteur Qualité 2017-03-18	

190	SABLER légèrement l'extérieur de la pièce Papier 120 à 320 grains	#19 13 MAR 2017	
200	NETTOYER les surfaces extérieures	#3 28 MAR 2017	

Section E : FINITION/PEINTURE

210	APPLIQUER le primer 2 couches d'environ 10 mils chacune	MPS-300-93-31-097	#3 28 MAR 2017
220	INSTALLER les attaches mécaniques (Camlocs) (Qte 4) (voir Annexe 1) - Utiliser les pinces spécialisées (OUT951) pour insérer les Camlocs dans les trous - Utiliser l'outil spécialisé (OUT952) pour installer les rondelles de retenues	Annexe 1 Pince à Camloc (OUT951)	#19 2 MAI 2017
230	<u>Inspection finale :</u> - Validation de la finition (pinholes, surface inégale, etc...) - Vérifier s'il y a un panneau de contrôle relié à la pièce - Étamper le carré dans le coin inférieur droit de la première page - Identifier la pièce finale (voir Annexe 1) pour exemple et localisation - Poids de la pièce : <u>6,6</u> (LBS)	Annexe 1 MPS-300-93-31-058	Inspecteur Qualité 2017-07-06

Section F : EXPÉDITION

240	Emballer et expédier	MPS- 300-93- 31-084	#8 30 AOUT 2017
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Work Order ID 155141

Monday, January 09, 2017 11:29:44 AM

155141

Page 1

Item ID: D350-604-041
Revision ID: URF 16-567
Item Name: Rear Locker Extender

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 8/1/2017 Start Qty: 1.00 *1*

Required Date: 9/1/2017 Req'd Qty: 1.00 *1*

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: 21 Date: JAN 1 2 2017

Tooling:

Date:

Run Start *NR1*

QC: 3-03 Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2273	1-07R M
D350-604-041	CUR <u>4/7/15</u>

100 Document Control 0.00

100

DC

Doc.Control -USB or Paperwork

DOCUMENT CONTROL

Memo

0.00

Photocopy bluefile and create labels per PPP D350-604-041

CHG009

CHG009 21 See attachment

SEP 21 2017

DAS
5
9-89

110 PURCHASING 0.00

110

Purchasing

Purchasing

PURCHASING

Memo

0.00

Issue P/O: 34974

Description: D350-604-041 Rear locker extender.

Manufacture as per dwg D2273

Supplier: FDC Composites Inc.

Certification of Conformity and process sheet required.

1 JAN 17 2017

EXTREME CARE MUST BE TAKEN TO PROTECT THE SURFACES OF THE REAR LOCKER. THE SURFACES MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.

MUST BE WELL PACKAGE, IF NOT IT WILL BE REFUSE